

Amendment to the Claims:

Please amend the claims as follows.

Please cancel claims 1, 6, 8, 24, 27, 31, 33, 34, 39 to 43, 46, 49, 51, 53, 55, 57, 58, 101, 106, 108, 112, 118, 128, 130, 133, 143 to 146, 148, 152, 160, 164, 168, 170, 171, 174, 181 and 228 without prejudice or disclaimer.

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

Claims 1 to 37 (canceled)

Claim 38 (currently amended): An isolated, synthetic or recombinant phospholipase (a) encoded by a phospholipase-encoding nucleic acid ~~as set forth in claim 34~~ having at least 90% sequence identity to SEQ ID NO:1; (b) having a sequence comprising enzymatically active fragments of (a); (c) having the sequence of (a) or (b) and lacking an endogenous signal sequence; (d) having the sequence of (a), (b) or (c) and further comprising a heterologous signal sequence; or (e) having the sequence of (a), (b), (c) or (d) and further comprising a heterologous signal sequence,

and optionally the sequence identities are determined by analysis with a sequence comparison algorithm or by a visual inspection.

Claims 39 to 60 (canceled)

Claim 61 (currently amended): An isolated, synthetic or recombinant polypeptide having a phospholipase activity and (i) having at least 90% [[50%]] sequence identity to SEQ ID NO:2 ; ~~SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:24, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:30, SEQ ID NO:32, SEQ ID NO:34, SEQ ID NO:36, SEQ ID NO:38, SEQ ID NO:40, SEQ ID NO:42, SEQ ID NO:44, SEQ ID NO:46, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:54, SEQ ID NO:56, SEQ ID NO:58, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:64, SEQ ID NO:66, SEQ ID NO:68, SEQ ID NO:70, SEQ ID NO:72, SEQ ID NO:74, SEQ ID NO:76, SEQ ID NO:78, SEQ ID NO:80, SEQ ID NO:82, SEQ ID NO:84, SEQ ID NO:86, SEQ ID NO:88, SEQ ID NO:90, SEQ ID NO:92, SEQ ID~~

~~NO:94, SEQ ID NO:96, SEQ ID NO:98, SEQ ID NO:100, SEQ ID NO:102, SEQ ID NO:104, SEQ ID NO:106, , SEQ ID NO:108 SEQ ID NO:110, SEQ ID NO:112, SEQ ID NO:114, SEQ ID NO:116, SEQ ID NO:118, SEQ ID NO:120, SEQ ID NO:122, SEQ ID NO:124, SEQ ID NO:126, SEQ ID NO:128, SEQ ID NO:130, SEQ ID NO:132, SEQ ID NO:134, SEQ ID NO:136, SEQ ID NO:138 or SEQ ID NO:140, over a region of at least about 100 residues, wherein optionally the sequence identities are determined by analysis with a sequence comparison algorithm or by a visual inspection, or, (ii) encoded by a nucleic acid having at least 90% [[50%]] sequence identity to the [[a]] sequence of as set forth in SEQ ID NO:1 ,SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:19, SEQ ID NO:21, SEQ ID NO:23, SEQ ID NO:25, SEQ ID NO:27, SEQ ID NO:29, SEQ ID NO:31, SEQ ID NO:33, SEQ ID NO:35, SEQ ID NO:37, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:43, SEQ ID NO:45, SEQ ID NO:47, SEQ ID NO:49, SEQ ID NO:51, SEQ ID NO:53, SEQ ID NO:55, SEQ ID NO:57, SEQ ID NO:59, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:65, SEQ ID NO:67, SEQ ID NO:69, SEQ ID NO:71, SEQ ID NO:73, SEQ ID NO:75, SEQ ID NO:77, SEQ ID NO:79, SEQ ID NO:81, SEQ ID NO:83, SEQ ID NO:85, SEQ ID NO:87, SEQ ID NO:89, SEQ ID NO:91, SEQ ID NO:93, SEQ ID NO:95, SEQ ID NO:97, SEQ ID NO:99, SEQ ID NO:101, SEQ ID NO:103, SEQ ID NO:105, SEQ ID NO:107, SEQ ID NO:109, SEQ ID NO:111, SEQ ID NO:113, SEQ ID NO:115, SEQ ID NO:117, SEQ ID NO:119, SEQ ID NO:121, SEQ ID NO:123, SEQ ID NO:125, SEQ ID NO:127, SEQ ID NO:129, SEQ ID NO:131, SEQ ID NO:133, SEQ ID NO:135, SEQ ID NO:137 or SEQ ID NO:139, over a region of at least about 100 residues, and optionally the sequence identities are determined by analysis with a sequence comparison algorithm or by a visual inspection, or ~~encoded by a nucleic acid capable of hybridizing under stringent conditions to a sequence as set forth in~~ SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:19, SEQ ID NO:21, SEQ ID NO:23, SEQ ID NO:25, SEQ ID NO:27, SEQ ID NO:29, SEQ ID NO:31, SEQ ID NO:33, SEQ ID NO:35, SEQ ID NO:37, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:43, SEQ ID NO:45, SEQ ID NO:47, SEQ ID NO:49, SEQ ID NO:51, SEQ ID NO:53, SEQ ID NO:55, SEQ ID NO:57, SEQ ID NO:59, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:65, SEQ ID NO:67, SEQ ID NO:69, SEQ ID NO:71, SEQ ID NO:73, SEQ ID NO:75, SEQ ID NO:77, SEQ ID NO:79, SEQ ID NO:81, SEQ ID NO:83, SEQ ID NO:85, SEQ ID NO:87, SEQ ID NO:89, SEQ ID NO:91, SEQ ID NO:93, SEQ ID NO:95, SEQ ID~~

~~NO:97, SEQ ID NO:99, SEQ ID NO:101, SEQ ID NO:103, SEQ ID NO:105, SEQ ID NO:107, SEQ ID NO:109, SEQ ID NO:111, SEQ ID NO:113, SEQ ID NO:115, SEQ ID NO:117, SEQ ID NO:119, SEQ ID NO:121, SEQ ID NO:123, SEQ ID NO:125, SEQ ID NO:127, SEQ ID NO:129, SEQ ID NO:131, SEQ ID NO:133, SEQ ID NO:135, SEQ ID NO:137 or SEQ ID NO:139~~

(iii) having the sequence of (i) or (ii) and lacking an endogenous signal sequence; or  
(iv) having the sequence of (i), (ii) or (iii) and further comprising a heterologous signal sequence; or  
(v) having the sequence of (i), (ii), (iii) or (iv) and further comprising a heterologous signal sequence.

Claims 62 to 64 (canceled)

Claim 65 (currently amended): The isolated, synthetic or recombinant polypeptide of claim 61, wherein the polypeptide has a phospholipase C (PLC) activity.

Claim 66 (currently amended): The isolated, synthetic or recombinant polypeptide of claim 65, wherein the phospholipase activity comprises catalyzing hydrolysis of a glycerolphosphate ester linkage; comprises catalyzing hydrolysis of an ester linkage in a phospholipid in a vegetable oil; comprises a phospholipase C (PLC) activity; comprises a phospholipase A (PLA) activity; comprises a phospholipase A1 or phospholipase A2 activity; comprises a phospholipase D (PLD) activity; comprises a phospholipase D1 or a phospholipase D2 activity; comprises hydrolysis of a glycoprotein; comprises a patatin enzymatic activity; or, comprises a lipid acyl hydrolase (LAH) activity.

Claims 67 to 82 (canceled)

Claim 83 (currently amended): An isolated, synthetic or recombinant polypeptide comprising the [[a]] polypeptide of as set forth in claim 61 and lacking a signal sequence.

Claim 84 (currently amended): An isolated, synthetic or recombinant polypeptide comprising the [[a]] polypeptide of as-set forth in claim 61 and having a heterologous signal sequence.

Claims 85 to 92 (canceled)

Claim 93 (currently amended): A protein preparation comprising the [[a]] polypeptide of as-set forth in claim 61, wherein the protein preparation comprises a liquid, a solid or a gel.

Claim 94 (currently amended): A heterodimer or homodimer comprising the [[a]] polypeptide of as-set forth in claim 61 and a second domain.

Claims 95 to 97 (canceled)

Claim 98 (currently amended): An immobilized polypeptide, wherein the polypeptide comprises the [[a]] sequence of as-set forth in claim 61, ~~or a subsequence thereof.~~

Claim 99 (canceled)

Claim 100 (withdrawn – currently amended): An array comprising an immobilized polypeptide having the sequence of ~~as-set forth in~~ claim 61.

Claim 101 (canceled)

Claim 102 (currently amended): An isolated, synthetic or recombinant antibody that specifically binds to the [[a]] polypeptide of as-set forth in claim 61.

Claim 103 (canceled)

Claim 104 (currently amended): A hybridoma comprising an antibody that specifically binds to the [[a]] polypeptide of as-set forth in claim 61.

Claim 105 (withdrawn – currently amended): A method of isolating or identifying a polypeptide with a phospholipase activity comprising the steps of:

- (a) providing the ~~[[an]]~~ antibody of ~~as set forth in~~ claim 102;
- (b) providing a sample comprising polypeptides; and
- (c) contacting the sample of step (b) with the antibody of step (a) under conditions

wherein the antibody can specifically bind to the polypeptide, thereby isolating or identifying a polypeptide having a phospholipase activity.

Claim 106 (canceled)

Claim 107 (withdrawn – currently amended): A method of making an anti-phospholipase antibody comprising administering to a non-human animal the ~~[[a]]~~ polypeptide of ~~as set forth in~~ claim 61 ~~or a subsequence thereof~~ in an amount sufficient to generate a humoral immune response, thereby making an anti-phospholipase antibody.

Claims 108 to 109 (canceled)

Claim 110 (withdrawn – currently amended): A method for identifying a polypeptide having a phospholipase activity comprising the following steps:

- (a) providing the ~~[[a]]~~ polypeptide of ~~as set forth in~~ claim 61 ~~[[65]]~~;
- (b) providing a phospholipase substrate; and
- (c) contacting the polypeptide with the substrate of step (b) and detecting a decrease

in the amount of substrate or an increase in the amount of a reaction product, wherein a decrease in the amount of the substrate or an increase in the amount of the reaction product detects a polypeptide having a phospholipase activity.

Claim 111 (withdrawn – currently amended): A method for identifying a phospholipase substrate comprising the following steps:

- (a) providing the ~~[[a]]~~ polypeptide of ~~as set forth in~~ claim 61 ~~[[65]]~~;
- (b) providing a test substrate; and
- (c) contacting the polypeptide of step (a) with the test substrate of step (b) and

detecting a decrease in the amount of substrate or an increase in the amount of reaction product,

wherein a decrease in the amount of the substrate or an increase in the amount of a reaction product identifies the test substrate as a phospholipase substrate.

Claim 112 (canceled)

Claim 113 (withdrawn – currently amended): A method of determining whether a test compound specifically binds to a polypeptide comprising the following steps:

- (a) providing the **[[a]]** polypeptide of as set forth in claim 61;
- (b) providing a test compound;
- (c) contacting the polypeptide with the test compound; and
- (d) determining whether the test compound of step (b) specifically binds to the polypeptide.

Claim 114 (withdrawn – currently amended): A method for identifying a modulator of a phospholipase activity comprising the following steps:

- (a) providing the **[[a]]** polypeptide of as set forth in claim 61 **[[65]]**;
- (b) providing a test compound;
- (c) contacting the polypeptide of step (a) with the test compound of step (b) and measuring an activity of the phospholipase, wherein a change in the phospholipase activity measured in the presence of the test compound compared to the activity in the absence of the test compound provides a determination that the test compound modulates the phospholipase activity.

Claim 115 to 122 (canceled)

Claim 123 (withdrawn – currently amended): A method for identifying a feature in a sequence comprising the steps of: (a) reading the sequence using a computer program which identifies one or more features in a sequence, wherein the sequence comprises a polypeptide sequence ~~or a nucleic acid sequence~~, wherein the polypeptide sequence comprises the **[[a]]** polypeptide of as set forth in claim 61; ~~a polypeptide encoded by a nucleic acid as set forth in claim 1~~; and (b) identifying one or more features in the sequence with the computer program.

Claims 124 to 152 (canceled)

Claim 153 (withdrawn – currently amended): A method for modifying a small molecule comprising the following steps:

- (a) providing a phospholipase enzyme, wherein the enzyme comprises the [[a]] polypeptide of as set forth in claim 61 [[65]], ~~or a polypeptide encoded by a nucleic acid comprising a nucleic acid sequence as set forth in claim 1;~~
- (b) providing a small molecule; and
- (c) reacting the enzyme of step (a) with the small molecule of step (b) under conditions that facilitate an enzymatic reaction catalyzed by the phospholipase enzyme, thereby modifying a small molecule by a phospholipase enzymatic reaction.

Claims 154 to 157 (canceled)

Claim 158 (withdrawn – currently amended): A method for determining a functional fragment of a phospholipase enzyme comprising the steps of:

- (a) providing a phospholipase enzyme, wherein the enzyme comprises the [[a]] polypeptide of as set forth in claim 61 [[65]], ~~or a polypeptide encoded by a nucleic acid comprising a nucleic acid sequence as set forth in claim 1;~~ and
- (b) deleting a plurality of amino acid residues from the sequence of step (a) and testing the remaining subsequence for a phospholipase activity, thereby determining a functional fragment of a phospholipase enzyme.

Claims 159 to 164 (canceled)

Claim 165 (currently amended): A chimeric polypeptide comprising at least a first domain comprising signal peptide (SP) and a polypeptide having the [[a]] sequence of as set forth in claim 61 [[164]], and at least a second domain comprising a heterologous polypeptide or peptide, wherein the heterologous polypeptide or peptide is not naturally associated with the signal peptide (SP).

Claims 166 to 168 (canceled)

Claim 169 (withdrawn – currently amended): A method of increasing thermotolerance or thermostability of a phospholipase polypeptide, the method comprising glycosylating a phospholipase, wherein the polypeptide comprises the at least thirty contiguous amino acids of a polypeptide of as set forth in claim 61, or a polypeptide encoded by a nucleic acid as set forth in claim 1, thereby increasing the thermotolerance or thermostability of the phospholipase.

Claims 170 to 174 (canceled)

Claim 175 (withdrawn – currently amended): A method for hydrolyzing, breaking up or disrupting a phospholipid-comprising composition comprising the following steps:

- (a) providing the [[a]] polypeptide having a phospholipase activity of as set forth in claim 61 [[65]], or a polypeptide encoded by a nucleic acid as set forth in claim 1;
- (b) providing a composition comprising a phospholipid; and
- (c) contacting the polypeptide of step (a) with the composition of step (b) under conditions wherein the phospholipase hydrolyzes, breaks up or disrupts the phospholipid-comprising composition.

Claims 176 to 177 (canceled)

Claim 178 (withdrawn – currently amended): A method for liquefying or removing a phospholipid-comprising composition comprising the following steps:

- (a) providing the [[a]] polypeptide having a phospholipase activity of as set forth in claim 61 [[65]], or a polypeptide encoded by a nucleic acid as set forth in claim 1;
- (b) providing a composition comprising a phospholipid; and
- (c) contacting the polypeptide of step (a) with the composition of step (b) under conditions wherein the phospholipase removes or liquefies the phospholipid-comprising composition.

Claims 179 to 181 (canceled)



Claim 182 (withdrawn – currently amended): A method for washing an object comprising the following steps:

- (a) providing the ~~[[a]]~~ polypeptide ~~having a phospholipase activity of~~ as set forth in claim 61 ~~[[65]]~~, ~~or a polypeptide encoded by a nucleic acid as set forth in claim 1;~~
- (b) providing an object; and
- (c) contacting the polypeptide of step (a) and the object of step (b) under conditions wherein the composition can wash the object.

Claim 183 (withdrawn – currently amended): A method for degumming an oil comprising the following steps:

- (a) providing the ~~[[a]]~~ polypeptide ~~having a phospholipase activity of~~ as set forth in claim 61 ~~[[65]]~~, ~~or a polypeptide encoded by a nucleic acid as set forth in claim 1;~~
- (b) providing an composition comprising an phospholipid-containing fat or oil; and
- (c) contacting the polypeptide of step (a) and the composition of step (b) under conditions wherein the polypeptide can catalyze the hydrolysis of a phospholipid in the composition.

Claims 184 to 196 (canceled)

Claim 197 (withdrawn – currently amended): A method for converting a non-hydratable phospholipid to a hydratable form comprising the following steps:

- (a) providing the ~~[[a]]~~ polypeptide ~~having a phospholipase activity of~~ as set forth in claim 61 ~~[[65]]~~, ~~or a polypeptide encoded by a nucleic acid as set forth in claim 1;~~
- (b) providing an composition comprising a non-hydratable phospholipid; and
- (c) contacting the polypeptide of step (a) and the composition of step (b) under conditions wherein the polypeptide converts the non-hydratable phospholipid to a hydratable form.

Claims 198 to 199 (canceled)

Claim 200 (withdrawn – currently amended): A method for caustic refining of a phospholipid-containing composition comprising the following steps:

- (a) providing the ~~the~~ [[a]] polypeptide ~~having a phospholipase activity of as set forth in claim 61 [[65]], or a polypeptide encoded by a nucleic acid as set forth in claim 1;~~
- (b) providing an composition comprising a phospholipid; and
- (c) contacting the polypeptide of step (a) with the composition of step (b) before, during or after the caustic refining.

Claims 201 to 204 (canceled)

Claim 205 (withdrawn – currently amended): A method for purification of a phytosterol or a triterpene comprising the following steps:

- (a) providing the ~~the~~ [[a]] polypeptide ~~having a phospholipase activity of as set forth in claim 61 [[65]], or a polypeptide encoded by a nucleic acid as set forth in claim 1;~~
- (b) providing an composition comprising a phytosterol or a triterpene; and
- (c) contacting the polypeptide of step (a) with the composition of step (b) under conditions wherein the polypeptide can catalyze the hydrolysis of a phospholipid in the composition.

Claims 206 to 211 (canceled)

Claim 212 (withdrawn – currently amended): A method for refining a crude oil comprising the following steps:

- (a) providing the ~~the~~ [[a]] polypeptide ~~having a phospholipase activity of as set forth in claim 61 [[65]], or a polypeptide encoded by a nucleic acid as set forth in claim 1;~~
- (b) providing a composition comprising an oil comprising a phospholipid; and
- (c) contacting the polypeptide of step (a) with the composition of step (b) under conditions wherein the polypeptide can catalyze the hydrolysis of a phospholipid in the composition.

Claims 213 to 226 (canceled)

Claim 227 (withdrawn – currently amended): A method for degumming an oil or a fat comprising the following steps:

- (a) providing the [[a]] polypeptide ~~having a phospholipase activity of as set forth in claim 61 [[65]]~~, ~~or a polypeptide encoded by a nucleic acid as set forth in claim 1~~, wherein the phospholipase activity comprises a phospholipase D activity, and a phosphatase enzyme;
- (b) providing an composition comprising an phospholipid-containing fat or oil; and
- (c) contacting the polypeptide of step (a) and the composition of step (b) under conditions wherein the polypeptide can catalyze the hydrolysis of a phospholipid in the composition.

Claim 228 (canceled)

Claim 229 (withdrawn – currently amended): A method for ameliorating or preventing lipopolysaccharide (LPS)-mediated toxicity comprising administering to a patient a pharmaceutical composition comprising the [[a]] polypeptide of as set forth in claim 61 [[65]]; ~~or a polypeptide encoded by a nucleic acid as set forth in claim 1~~.

Claim 230 (withdrawn – currently amended): A method for detoxifying an endotoxin comprising contacting the endotoxin with the [[a]] polypeptide of as set forth in claim 61 [[65]]; ~~or a polypeptide encoded by a nucleic acid as set forth in claim 1~~.

Claim 231 (withdrawn – currently amended): A method for deacylating a 2' or a 3' fatty acid chain from a lipid A comprising contacting the lipid A with the [[a]] polypeptide of as set forth in claim 61 [[65]]; ~~or a polypeptide encoded by a nucleic acid as set forth in claim 1~~.

Claims 232 to 233 (canceled)

Claim 234 (new): The isolated, synthetic or recombinant polypeptide of claim 38, wherein the sequence identity is at least 91%.

Claim 235 (new): The isolated, synthetic or recombinant polypeptide of claim 234, wherein the sequence identity is at least 92%.

Claim 236 (new): The isolated, synthetic or recombinant polypeptide of claim 235, wherein the sequence identity is at least 93%.

Claim 237 (new): The isolated, synthetic or recombinant polypeptide of claim 236, wherein the sequence identity is at least 94%.

Claim 238 (new): The isolated, synthetic or recombinant polypeptide of claim 237, wherein the sequence identity is at least 95%.

Claim 239 (new): The isolated, synthetic or recombinant polypeptide of claim 238, wherein the sequence identity is at least 96%.

Claim 240 (new): The isolated, synthetic or recombinant polypeptide of claim 239, wherein the sequence identity is at least 97%.

Claim 241 (new): The isolated, synthetic or recombinant polypeptide of claim 240, wherein the sequence identity is at least 98%.

Claim 242 (new): The isolated, synthetic or recombinant polypeptide of claim 241, wherein the sequence identity is at least 99%.

Claim 243 (new): The isolated, synthetic or recombinant polypeptide of claim 242, wherein the polypeptide has the sequence of SEQ ID NO:2, or enzymatically active fragments thereof.

Claim 244 (new): The isolated, synthetic or recombinant polypeptide of claim 61, wherein the sequence identity to SEQ ID NO:2 or to SEQ ID NO:1 is at least 91%.

Claim 245 (new): The isolated, synthetic or recombinant polypeptide of claim 244, wherein the sequence identity to SEQ ID NO:2 or to SEQ ID NO:1 is at least 92%.

Claim 246 (new): The isolated, synthetic or recombinant polypeptide of claim 245, wherein the sequence identity to SEQ ID NO:2 or to SEQ ID NO:1 is at least 93%.

Claim 247 (new): The isolated, synthetic or recombinant polypeptide of claim 246, wherein the sequence identity to SEQ ID NO:2 or to SEQ ID NO:1 is at least 94%.

Claim 248 (new): The isolated, synthetic or recombinant polypeptide of claim 247, wherein the sequence identity to SEQ ID NO:2 or to SEQ ID NO:1 is at least 95%.

Claim 249 (new): The isolated, synthetic or recombinant polypeptide of claim 248, wherein the sequence identity to SEQ ID NO:2 or to SEQ ID NO:1 is at least 96%.

Claim 250 (new): The isolated, synthetic or recombinant polypeptide of claim 249, wherein the sequence identity to SEQ ID NO:2 or to SEQ ID NO:1 is at least 97%.

Claim 251 (new): The isolated, synthetic or recombinant polypeptide of claim 250, wherein the sequence identity to SEQ ID NO:2 or to SEQ ID NO:1 is at least 98%.

Claim 252 (new): The isolated, synthetic or recombinant polypeptide of claim 251, wherein the sequence identity to SEQ ID NO:2 or to SEQ ID NO:1 is at least 99%.

Claim 253 (new): The isolated, synthetic or recombinant polypeptide of claim 252, wherein the polypeptide has the sequence of SEQ ID NO:2.

Claim 254 (new): The isolated, synthetic or recombinant polypeptide of claim 252, wherein the polypeptide has the sequence of SEQ ID NO:2, or enzymatically active fragments thereof.

Claim 255 (new): An isolated, synthetic or recombinant polypeptide having a phospholipase activity and (a) comprising a sequence having at least 90% sequence identity to at least 100 contiguous amino acid residues of SEQ ID NO:2; (b) having the sequence of (a) and lacking an endogenous signal sequence; (c) having the sequence of (a) or (b) and further comprising a heterologous signal sequence; or (d) having the sequence of (a), (b) or (c) and further comprising a heterologous signal sequence.

Claim 256 (new): The isolated, synthetic or recombinant polypeptide of claim 255, wherein the sequence has at least 90% sequence identity to at least 150 contiguous amino acid residues of SEQ ID NO:2.

Claim 257 (new): The isolated, synthetic or recombinant polypeptide of claim 256, wherein the sequence has at least 90% sequence identity to at least 175 contiguous amino acid residues of SEQ ID NO:2.

Claim 258 (new): The isolated, synthetic or recombinant polypeptide of claim 257, wherein the sequence has at least 90% sequence identity to at least 200 contiguous amino acid residues of SEQ ID NO:2.

Claim 259 (new): The isolated, synthetic or recombinant polypeptide of claim 258, wherein the sequence has at least 90% sequence identity to at least 250 contiguous amino acid residues of SEQ ID NO:2.

Claim 260 (new): The isolated, synthetic or recombinant polypeptide of claim 259, wherein the sequence has at least 90% sequence identity to at least 275 contiguous amino acid residues of SEQ ID NO:2.